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THE SUCCESSFUL TREATMENT
OF
CHRONIC DISEASES.

A PLEA FOR THEIR MORE
METHODICAL MANAGEMENT.

BY

SIMON BARUCH, M. D.

Physician to the Manhattan General Hospital, New York Juvenile
Asylum and Montefiore Home for Chronic Invalids.

Read at the 86th Annual Meeting of the Medical Society of the State
of New York, February 2d, 1892.

REPRINT FROM THE DIETETIC GAZETTE, JAN., FEB., MARCH, 1892.



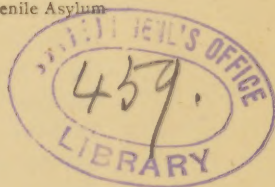
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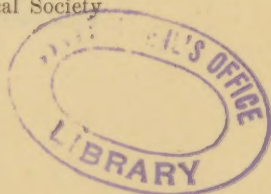
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THE SUCCESSFUL TREATMENT OF CHRONIC
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METHODICAL MANAGEMENT.¹

BY SIMON BARUCH, M.D., PHYSICIAN TO THE MAN-
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ILE ASYLUM AND MONTEFIORE HOME FOR CHRONIC
INVALIDS.

The modern management of diseased conditions is a happy evolution from the more crude methods of our predecessors. In this most important department of medical activity we are, however, still compelled to acknowledge many deficiencies and shortcomings. While in other branches medicine has made great advances since the day of Hippocrates, it must be confessed that in the treatment of disease, which is the chief aim of our lives, we may with advantage listen to the instructions of the Nestor of Medicine to-day. And there have been not very remote periods in the history of medicine when the prevailing practice, consisting chiefly of spoliative measures calculated to attack and conduct the disease by sledge-hammer blows, which to-day appear as stages of retrocession, and which demonstrate the vast superiority of the Hippocratic idea of therapeutics to that prevailing in that period. What has been the outcome of the dis-

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putations of the schools? What is the modern status of therapeutics? To-day we stand in breathless expectancy, awaiting the dawn of precision in therapeutics. This hope is vain! Recent experience has demonstrated the fallacy of specific therapeutics after it had been promulgated by a master mind and adopted as an experiment by the best clinicians in every part of the globe. Just as in ancient warfare the agony was prolonged, the sufferings and serious incidents thereto multiplied, so has ancient therapy counted its vast numbers of victims ere the truth was ascertained. Just as in modern warfare the master-minds of military science crush one or the other army by improved arms and tactics, so do we find in modern therapy a great clinical experiment made, which in a few months has almost decided the fate of a treatment, the determination of whose merits would formerly have required a hundred years and many thousands of victims. This, then, has been gained—that medicine is no longer under the thralldom of schools, but every idea is at once placed in the crucible of experiment, whence it emerges as useful or perishes if worthless.

The result of the analytical methods of modern therapeutics is the realization of the fact that the physician must act as the alert assistant to the conservative powers residing within the body, and whose tendency is usually in the direction of restoration. In other words, we have come to recognize that as the healthy organism stands under the protecting and preserving influence of nature, so does the diseased

organism owe its progressive stages to the same forces. As I said nearly twenty years ago in an address before the South Carolina Medical Association, "Disease, we are now taught, is not the negative of health, for the same forces which are silently evolved in the normal and peaceful actions of life are aroused from their quietude by unfriendly influences. Order and law reign even where the human eye discerns only labyrinthian confusion and disorderly turmoil. In the apparently discordant manifestations of diseased action, the same guiding thread will be discovered whose just appreciation will guide us to the goal of success."

Twenty years have elapsed since I uttered these words, and to-day observation convinces me more fully of their correctness. It is almost regarded as an axiomatic truth in therapeutics that in acute diseases, at least, the physician cannot throttle disease, but must watch and wait for a point of vantage, when he may come to the rescue of the system, which is battling against it. To weaken the influence of the disease, to strengthen the resistance of the organism, are the great principles of the modern treatment of acute diseases.

Whether we do so by rest, diet, bathing, antipyretics, anodynes, hypnotics or by specific agents like quinine and mercury, this is the recognized goal of the modern management of acute diseases.

Unhappily, a long time elapsed ere this idea was realized ; and even to-day we occasionally encounter narrow minds who claim to fight disease with mighty

weapons, regardless of the fact that the patient is the battlefield and must bear the brunt of both contending forces.

It is the aim of this paper to emphasize the necessity of recognizing the same therapeutic principles in the management of chronic disease that have happily attained almost universal adoption in acute disease.

It cannot be denied that the former are quite as fatal and destructive of comfort, means and happiness as are the latter. Acute diseases almost always tend toward recovery. If the latter does not ensue, the case is sharp, short and decisive. Chronic diseases, on the contrary, invade the system insidiously in many instances. Like a thief in the night, they often come upon the unguarded organism, causing destruction of important tissue-elements, whose restoration is often well-nigh impossible when our aid is invoked. Years of suffering and sorrow ensue, involving loss of means and demanding sacrifices from the family of the afflicted which wreck their fortune, if not their own health also.

When we are called upon to treat a case of typhoid fever or other acute disease, we stand at the bedside filled with hope and courage, feeling a certain degree of security in the knowledge that we have a powerful ally in the *vis medicatrix naturæ*, to assist which all our energies are bent. How different is the idea which animates us when a case of diabetes or chronic rheumatism comes to us for treatment. Does the modern physician, who is so trustful to nature in acute disease that he has almost become a therapeutic

Nihilist, feel inspired with hope or confidence in the issue? Far from it, alas! Palliation is the chief goal of his therapeutics; he thinks not of restoration. No wonder that he undertakes the case handicapped by his apprehensions and treats it in a half-hearted manner. He has certain ideas about diet in gout and diabetes, cod-liver oil in phthisis, iodide of potassium in chronic rheumatism, etc.; but he cannot often lay his hand upon his heart and say to himself that he has ever cured a correctly diagnosed case of this kind.

This is a serious question. It would be the height of egotism were I to announce this dictum upon my own personal authority. It cannot be gainsaid that there are many chronic diseases, acknowledged to be incurable, which would yield to systematic, persistent, judicious treatment, applied as we apply it in acute diseases. I say this from my own experience of thirty years in private and hospital practice, in civil and military, in rural, village and metropolitan life. I say it, sustained by the published experience of clinical teachers like Ziemssen, Dujardin-Beaumetz and Semmola, representing three countries.

The removal of the manifestations of acute disease is usually regarded as the cure of that disease. Its recurrence at a more or less remote period does not invalidate this opinion. And yet the professional and lay mind is loth to accept the same view with regard to chronic diseases. We sometimes hear it said: "This case of phthisis is no longer recognizable by physical signs nor subjective symptoms, the patient has regained his normal weight, appearance and activity,

but he is not cured, because phthisis is incurable, it will recur under favoring conditions." The fallacy of such an argument is apparent if it be applied to pneumonia or malarial fever or acute rheumatism. Moreover, the best proof of its curability is found in the fact that autopsies have often revealed cicatrization, restoration of weight and normal conditions of a diabetic patient, and their continuance under a moderately normal diet should be regarded as the recovery of that patient from diabetes.

So it is with chronic gout and rheumatism, and more especially with all those functional nervous and gastro-intestinal diseases, whose entire removal is possible under proper management. If all the manifestations of a chronic disease have ceased for a reasonable length of time, such disease is, in my opinion, cured as completely as an acute disease, with the condition that, since chronic diseases are usually traceable to slow and insidious etiological factors, these must be sought out and removed in acute diseases.

What are the elements of success in the management of chronic disease? In order to answer this question we must narrow it down to definite diseases.

I desire to refer here chiefly to

1st. Diathetic diseases,—as phthisis, rheumatism and gout.

2d. Functional diseases—*i. e.*, those in which no positive destructive change in tissue elements has taken place.

In both classes of disease the road to effective management lies, as it does in acute disease, to sustaining

the resisting power of the organism, and to weakening the force of the disease.

PHTHISIS.

Phthisis offers a good illustration. This is a disease in which there is a local manifestation due to a general infection. Realizing this fact, its most modern management has become exceedingly simple, and more successful in proportion to its simplicity. We have the testimony of specialists like Dettweiler and others to the clinical fact that by removal of the patient from his unfavorable environment to an institution in which pure, dry air, combined with appropriate food and other elements of treatment may be obtained, we weaken the disease and improve the patient's chances of recovery. The chief method by which the force of so progressive and destructive a malady as phthisis may be undermined is to neutralize as far as possible its etiological factors. The latter are usually hereditary influences and a mode of life which has enhanced the vicious innate elements imparted by heredity. These cannot be removed, but they may be neutralized to a great extent, especially if recognized early, by removing the patient from a crowded city or from a badly-constructed country home, from sedentary occupation, from association with other tuberculous patients. This step is unhappily taken too late to afford the most satisfactory results. But that cases of early recognized phthisis may thus be brought to recovery is so well ascertained a clinical fact that climatic agencies

have been the chief agencies of phthisis-therapy for many years. There is, however, much groping in the dark, much haphazard prescription of change of air, which has brought discredit in the lay and professional mind upon this all-important element of treatment.

Simplicity is in this matter as important as it is in all therapeutic questions. It is a principle recognized by those best qualified to judge that the climate which affords the patients the best opportunity for the most continuous breathing of pure air, air free from dust or other vitiating matter, is the most useful climate. While other elements, such as altitude, etc., are important, absolute purity of the air and the possibility of utilizing it at all times, night and day, without interruption, is the chief. This is the kernel of rational therapy of phthisis.

Allow me to cite an analogy for the purpose of emphasizing it. In the preaseptic (the antiseptic) period it was regarded as a *sine quâ non* to treat wounds with strong solutions of antiseptics; the air even was impregnated with them. Now surgeons recognize absolute cleanliness of the field of operation and of the operator as the cardinal principal. The poisonous antiseptics formerly deemed necessary are cast aside by many because they are harmful.

The one great truth stands ever before the eye of the modern surgeon—cleanliness; absolute, scrupulous cleanliness leads to success. To its recognition modern surgery owes its greatest triumphs. Change of climate for consumptives is extremely valuable,

but it involves many disadvantages, which are far more fatal to its success than the abuse of antiseptics is in wound treatment, and yet we continue to send patients away from comfortable homes to uncomfortable hotels and boarding-houses, or incomplete sanatoria, where many disadvantages in diet and probable indiscretions in exercise neutralize the most valuable element of all appropriate climates—pure air. It will be a glorious day for medicine when the physician will recognize that *the constant exposure of the phthisical patient to pure air is the cardinal truth of climate-therapy*, as cleanliness is now recognized by the surgeon in wound treatment.

Formerly it was thought absolutely essential to send phthisical patients to the South. A semi-arctic region like the Adirondacks would have been regarded by our forefathers as absolutely detrimental, if not fatal. To-day many consumptives find relief and cure in the cold, dry air of mountainous New York and in distant Colorado, as well as in the mild atmosphere of the south of France, or Algeria, or Florida.

To resume our analogy. The discussion as to the superiority of sublimate, the comparative merits of iodoform and boracic and carbolic acid, which were replete with interest and profit at one time, are now of secondary interest, since we know that pure, undefiled manipulation of the wound is the chief object of asepsis. When contending climates have exhausted their arguments (which are as interesting and profitable in connection with phthisis-therapy as once were the arguments on the various vaunted antiseptics in surgery)

the cardinal principle of treatment will stand out in bold relief. It will then be clearly apparent that it is not this or that particular climate ; it is not this or that particular altitude which is most conducive to recovery, but methodical treatment under conditions which afford the patient the best opportunity for outdoor life, in air that is free from dust and other vicious elements ; these are the true curative factors.

This idea has been most successfully, because most intelligently, carried into practical execution at Falkenstein, where Dr. Dettweiler looks with disfavor upon medicinal remedies and pins his faith chiefly to the curative influence of pure air, to which he exposes his patients, without regard to the rigorous climate in winter even, at all seasons. The discipline of this institution is rigid, and almost military in exacting obedience. At 8 A.M. the patients are expected to be down-stairs, under penalty of a fine. Then each one stretches himself upon his reclining chair, of which there are a very large number in the large halls, which he leaves five or six times during the morning to take a ten or fifteen minutes' walk. "Patients are advised to walk slowly, on a gentle slope, with shoulders erect, and every fifteen minutes to fill their lungs to their full capacity by inhaling through the nose." Breakfast is served, consisting largely of milk, after which the patient returns to his reclining chair, and the rest of the day is passed in the same manner as the morning. Dettweiler is most autocratic among his patients, and teaches them to cough only three times a day. Hence each cough is followed by expectora-

tion, and he never allows them to cough uselessly. Three times a day each patient takes his own mouth temperature and notes it upon the chart. At 10 P.M. each one returns to his bedroom, which has remained open the entire day; the window is left partly open the entire night, covered by a light blind.

No drugs whatever are used at Falkenstein, and and still the results are most satisfactory, thirty-seven per cent., including all grades, recovering completely.

Prof. Bouchard has recently introduced this treatment into France. He says: "The windows must be left open, even during winter nights. Certain precautions are necessary, but if the treatment is begun in the summer time one is easily accustomed to it. In the beginning it is best to leave the window open and draw the blind, and in very cold weather even the curtain may be pulled down. If patients object strongly to this, the windows in an adjoining room may be opened and the door left open. By this means a constant supply of fresh air is obtained. If the temperature goes below 50° F. a fire had better be lighted in the room. There is no danger of taking cold as long as one is well covered in bed.

Dr. Nicaise has reported to the French Academy of Medicine his experience with this treatment, during the winter '88-'89, on the Mediterranean. He finds that there is no danger in leaving the window open during the coldest nights in winter without a fire, provided the temperature does not go below 50° F. Below this point it is not advisable to allow the temperature to go. The aim is to enable the patient

to inspire perfectly fresh (not cold) air, which is constantly made to stream in through open windows, chimneys and doors or window-cracks.

This "open-window" method of treating phthisis has recently been practised with great success by Dr. M. Moizard, of the Hôpital Tenon, at Paris. He adopts Dr. Dettweiler's ideas in toto. "The rooms," says he, "must be ventilated in such manner as to avoid the possibility of a draught. The patient must not be covered with too many blankets, but should wear a warm night-gown, flannel underwear and a woollen vest. He should be taught to breathe through the nose." Dr. Moizard first accustoms his patients to sleep with open windows in the summer. The sleeping apartment chosen for his experiments had a lofty ceiling and a window on each of the four sides; four beds were placed in it, each being occupied by a man. A large window facing to the south was left open day and night, but covered with a blind at night to prevent too great reduction of the temperature. The temperature of the room, which was observed from the beginning of the experiment, varied from 8° to 17° C. Towards the end of November it fell to 5° C. without giving rise to unfavorable symptoms in the patients. It was thought best, however, to keep the room heated during the cold weather. In this manner, while in the middle of January the temperature outside was as low as 0.10° C., that in the room never fell below 8° C.

The most striking result observed was the increase of appetite, followed by a gain in weight. A certain

number of patients, especially those suffering from incipient tuberculosis, gained in weight as much as three pounds every week. Cough and expectoration were diminished, and the night-sweats disappeared rapidly. The fever due to pulmonary congestion and breaking down of the tuberculous foci was promptly reduced ; but fever caused by the broncho-pulmonary complications was not modified, and these patients had to be removed from the influence of the cold air. If we eliminate the latter cases it may be said that the benefits derived from this treatment are almost equivalent to a cure.

The indications of Hærotherapy are very extensive. Patients in the third stage of phthisis, with cachexia and high fever, are, however, not likely to be benefited. The most favorable cases are those in which there is a tendency to the formation of fibrous tissue, as in cases of chronic bronchitis, fibroid phthisis, emphysema and rheumatism. Fever and hæmoptysis, although considered as serious symptoms in chronic tuberculosis, do not constitute a contra-indication to this treatment. On the other hand the inhalation of cold air will often prevent hemorrhages and reduce temperature of the body. In conclusion, Dr. Moizard states that, with the exception of cases of acute tuberculosis and broncho-pneumonia, this method affords much relief in the ordinary progressive form of phthisis, arresting demutrition, fever, night-sweats and diarrhœa, especially if it is resorted to at an early period.

At Brehmer's Institute, at Goerbersdorf, the same principle has long been adopted. The patient is almost constantly exposed to fresh air, without drafts, and well protected against too sudden changes. Even the dining-rooms are kept at a temperature of 65° F. at all seasons, and the air is renewed five times every hour. The results obtained by this Nestor of simplified therapy are gratifying in the extreme. Of 554 cases of phthisis treated in 1888, 49 (*i. e.* 8.8 per cent.) were completely cured, 71 (13 per cent.) were nearly cured—that is, neither bacilli nor elastic fibres were longer present in the sputum—28 were not helped and 34 died. The others were helped somewhat, as shown by a gain in weight averaging 11 pounds. Of the 150 who remained in the institution during the winter 1887–88, 17 died, 6 remained unchanged, and the other 127 showed a gain in weight averaging 19½ pounds.”

This principle involving the paramount importance of a continuous supply of fresh air, seems to be so well established that it should be made the guiding star in all cases, whether they be under institutional or private treatment.

II. The second indication is to endow the system with the power of resisting the inroads of the established disease and treating complications and sequelæ. That indication may be met by the fulfilment of the first indication, residence in an appropriate climate, by a proper and carefully regulated diet and hygiene, by certain medicinal agents, and last, but not least, by a judicious hydrotherapy. It is not my aim to dis-

cuss here the medicinal agents that have from time to time been recommended in phthisis, from cod liver oil to the more recent hypodermic medications. I desire chiefly to dwell upon the non-medicinal agencies—agencies whose value has been thoroughly tested and approved. Among these a brief reference to the errors of omission but too often practised, and which sad experience has taught me to learn, is the necessity of *careful regulation of exercise*. Much attention is usually given to regulation of the diet. While I regard this as important, it is secondary to exercise, because when the patient is suffering from invincible anorexia nothing but the most simple food will be taken and assimilated. It is not so with exercise.

Consumptives who are not bedridden are but too frequently allowed, if not advised, to indulge in exercise short of fatigue. This is an error which has cost many lives and much misery. If we would reflect that we have a localized inflammatory action to deal with the fallacy of advising anything that must increase the labor of the inflamed organ must at once become apparent. No argument should be needed to enforce the most absolute quiescence of the diseased organ. On the other hand the lung needs thorough ventilation, the affected parts require the contact of pure air, the blood needs its invigorating influence; the nervous system cries out for it. To “steer between Scylla and Charybdis” in these cases is, indeed, a difficult problem. It is, in my experience, always best to err on the side of rest so long as the evening temperature is above 100°. If the morning tempera-

ture reaches 99°, moderate, gentle walking on level ground, with frequent respites or carriage exercise, may be resorted to at that time. The plan adopted by Dettweiler and Brehmer of exposing the patient to the constant influence of pure air and sunshine without the possibility of chilling them, is the most useful, and may be accomplished in private practice also, as I shall show. Abstention from exercise, then, when the temperature is habitually above 100°, should be the rule. But it would be equally unsafe to allow the patient to rest in illy-ventilated chambers; indeed, it would be *more* unsafe to let him breathe the air vitiated by himself or others.

The lungs should be treated as is every other inflamed organ. So long as active inflammation exists they should be kept at rest, or slowly and gently expanded. When the presence of fever precludes outdoor exercise simple out-door life must be substituted with massage or passive movements to stimulate the muscular system. Much of the ill-effect of absolute quiescence will be counteracted, as I shall show, by hydrotherapy.

In this measure we possess an agent whose power for good is incalculable, and which has given me more valuable assistance than all other means combined. The judicious application of cold or cool water to the periphery produces a stimulus to the sensory nerves which is transmitted to the central nervous system, and thus refreshes every function dependent upon the latter.

The respiration is gently but slowly deepened whenever the cold water impinges upon the skin. The heart is made to contract with more vigor when the peripheral circulation is improved by the shock, and consequent contraction and subsequent dilatation of the cutaneous capillaries. The appetite is improved, tissue-change increases, and if there is a rise of temperature it is subdued mildly but surely. Of course these effects depend upon the intensity of the cold and the manner of its application.

TONIC EFFECT OF HYDROTHERAPY.

That hydrotherapy has demonstrated its value as a tonic agent is a well-known fact. Its value in phthisis has been recognized by Brehmer, who even claimed to be the first one to apply it in this disease. Winternitz has shown that it must be an agent of decided tonic power, inasmuch as out of 2,400 guests at his institute in Kaltenleutgeben, which I have personally visited, 56 per cent. showed an increase of weight. Therefore, as nutrition is the chief aim in phthisis-therapy we possess in this method a powerful weapon which, rightly used, has demonstrated its value.

But, aside from this important consideration, the predisposition to repeated colds and consequent probable aggravation of the local processes and general symptoms may be diminished by the neuro-vascular discipline to which the skin is daily subjected by applications of cold water in some appropriate form. This hardening process has long been recommended for those predisposed to phthisis. Ziemssen speaks of

it in his lectures on treatment of tuberculosis as "a remedy of extraordinary value for persons who are predisposed to have acquired phthisis."

TECHNIQUE.

The technique of these procedures varies with each case. Brief applications of low temperature, as by the douche or rain bath ; the wet pack, or rapid ablutions, are followed by rapid reactions, and, if well borne, are exceedingly useful as tonics ; while, on the contrary, in cases suffering from elevated temperatures and great debility more gentle procedures and higher temperatures are required. I have myself seen damage done to these cases by too cold applications, which are better indicated in afebrile or mildly febrile condition. This is contrary to views usually entertained on the therapeutic action of cold baths. My observation at the Montefiore Home for Incurables, in which cases of the most forlorn type, so far as previous hygienic surroundings are concerned, are received, has led me to adopt the following course, because the skin of many of these poor people have long been strangers to cold water, or, indeed, water of any kind.

After a thorough cleansing warm-bath or soap ablu-tion, a day is allowed to elapse. The patient is now wrapped snugly, quite naked, in a woolen blanket, so that his entire body is excluded from air ; other blankets are piled over him ; the windows are opened, and he is given a small glass of iced water every ten minutes. Having lain in this position an

hour, now one part of the body is exposed and bathed as follows : A basin of water at 75° is ready, into which the attendant dips his right hand, covered by a mitten or glove of Turkish toweling. With the wet glove the face is well bathed. Now one arm is exposed and rapidly washed and rubbed, then dried and replaced under the blanket. Other parts are then successively treated. At the termination of this ablution the patient is rapidly rubbed all over with a coarse towel. This treatment is repeated daily, the temperature of the water being reduced two degrees on each occasion.

The next step is the dripping sheet. The patient standing in a tub of water at 100° F. has a sheet dipped in water at 70° thrown over his head and body from behind and is wrapped completely and snugly in it. The attendant now rapidly passes his outstretched hands over successive parts of the body, with some pressure upon the sheet. He rubs the *sheet*, not *with* the sheet. One or more pitchers of water, five to ten degrees colder, are thrown upon the parts that have been subjected to friction. The sheet is removed and the patient rapidly dried. This method requires great care and skilful application. Its success or failure depends upon ascertaining by previous treatment the reactive capacity of the patient. The most useful hydropathic procedure in phthisis, however, is the rain-bath. Unfortunately, this finely-divided douche can only be administered in institutions. The patient stands within a frame constructed of six semi-circles of inch tubing, the upper one on a line with the clavicles.

Each tube has three lines of fine perforations, the upper line directed upward, the middle straight forward, the lower downward. The water should have a fall of not less than forty feet. The temperature adapted to the average case of phthisis is 65° F. Here the pressure with which the water strikes the body affords a kind of massage which assists in producing reaction even in feeble individuals. But it should not be applied without previous training of the skin as above described. The rain-bath is an antipyretic of great value, if its temperature is not below 60° nor above 70° ; it is a stimulant and tonic if between 55° and 65° F. The skin should become pink while under it, and the patient must not be chilled by it ; at least any coldness he may experience should disappear after he is dried. *This, indeed, is a test of the efficiency of all hydriatic procedures.* Decided chilliness continuing after thorough drying and friction is an evidence of improper selection of the temperature, duration or method of the bath. These should be modified as indicated by their effects.

The following cases taken from the records of the Montefiore Home, by Dr. M. Rosenthal, the senior resident physician, may serve as an illustration of the clinical results of this treatment :

J. J., tailor, at 33, German ; admitted February 2, 1890.—Family history negative. Illness of one and one-half years' duration. Began with a pulmonary hemorrhage, followed by cough ; spat blood two days and felt better after it. Continued to cough until December, 1889, when he had a most severe

hemorrhage, became very weak and was confined to bed. Continues weak ; cannot work ; coughs a great deal ; expectorates a little mucus, often mixed with blood. Complains of pains in back, tickling in larynx : appetite is good, bowels regular. *Physical signs*.—Dulness over right upper lobe, as far as first rib, posteriorly to border of scapula ; slight dulness over left apex ; uncertain and accentuated breathing, with prolonged expiration over the right apex, feeble respiration over left. Temperature normal ; pulse, 84 ; respiration, 28.

February 18.—Weight, 135 pounds.

Treatment.—One minim creosote pill, two t.i.d. with cod-liver oil Z ss. Rain-bath at 65° for 30 seconds daily.

March 1.—Coughs only a little in the morning. Weight, 142½.

March 10.—Doing well. Weight, 147½.

March 20.—In fair condition ; quite a little cough in the morning. Weight, 149½.

March 27.—Weight, 152½.

April 5.—No complaint. Weight 156.

April 25.—Weight, 161½.

May 5.—In the last few days appetite is not so good ; otherwise feels very comfortable. Coughs sometimes in the morning ; no expectoration. Weight, 160½.

Dr. Dessau examined patient to-day. He found : Very slight broncho-vesicular respiration in the left apex. Impaired resonance on percussion over the same, and very few mucous râles. On the left below

the scapula very few subcrepitant râles, probably due to some old pleuritic adhesions.

May 11.—Right apex, vesicular respiration and very slight impaired resonance, which is often found normally in right chest, so that practically we can find now only a very slight infiltration of left apex with some old pleuritic adhesions.

Weight, 161 (a gain of 26 pounds).

Discharged at his own request. He has been at work since that time.

I. D., aged 36 years, ill two years and a half. Had hemorrhage two years ago; since then night-sweats, cough, expectoration and pain in left side. Has been treated twice at Mount Sinai Hospital for phthisis.

Physical Signs.—On admission dulness over left apex, impaired breathing; pleuritic friction râles on right side along auxiliary space. Weight, 162½ pounds.

Treatment.—General sustaining measures, with daily rain-bath at 65° for thirty seconds; damp compresses to chest.

Result.—Improvement of all symptoms, and gain of fourteen pounds and a half during ten weeks.

December 16, 1890.—He was subjected to tuberculin treatment until April 29, other treatment being suspended. The reactions were accompanied by marked changes in the physical signs, several times amounting to positive evidence of localized pneumonia, with temperature of 104°; bronchial respiration and voice over left apex to third rib, and sibillant râles over right chest anteriorly. These usually disappeared in forty-eight hours.

The patient lost so much weight and general appearance that I frequently felt misgivings as to the propriety of subjecting him to the experiment. The rain-baths were resumed, and his general condition at once improved and appetite returned. At the present time there is no cough, the least amount of expectoration, and but few pleuritic friction sounds over left apex. His weight is 178½ pounds. Dr. Hodenpyl, who kindly examined all sputa, reported: First examination, about 10 bacilli to the field; second examination, very few bacilli; third, fourth and fifth examinations, *no bacilli*.

This patient may be regarded as recovered, judging from the physical signs, subjective symptoms, his general condition and the absence of bacilli.

He steadily lost in flesh and strength and appetite until he resumed the rain-baths, when he again began to improve until he gained seven pounds over his weight just before the injections, and twenty-one pounds over his weight on entering. He was discharged on July 14, weighing 183 pounds, and is looking for work.

H. S., aged 31, admitted May 2, 1890. Family history negative; always well until May, 1889, when he had first pulmonary hemorrhage; was confined to bed eight weeks with cough, night-sweats and afternoon fevers. In September, 1889, and January, 1890, he had hemorrhages and went to Mount Sinai Hospital, whence he was discharged improved in seven weeks.

He had cough, expectoration and pain in the chest; no appetite when admitted.

Physical Examination.—Dullness over right third anteriorly and posteriorly ; subcrepitant and friction râles ; broncho-vesicular respiration with prolonged expiration. On left side prolonged expiration with some friction sounds over left apex. Weight $129\frac{3}{4}$ pounds.

August, 1890.—Sputum found to contain bacilli.

In September, 1880, he had a hemorrhage.

During this time he received rain-baths, syrup of the hypophosphites and creosote ; at times cod liver oil. *Under this treatment he steadily improved*, so that when he was subjected to tuberculin injections, on December 16, 1890, he weighed 146 pounds—a gain of $16\frac{1}{2}$ pounds in six months and a half—and *no bacilli were found* by Dr. Hodenpyl in his sputum. There were still, however, dullness over right apex, broncho-vesicular respiration and subcrepitant râles. His temperature was 90° . April 15 tuberculin injections discontinued.

There being no tubercle bacilli in the sputum and no cough or expectoration, and the physical signs being only a slight, jerky respiration, he was discharged as cured April 29, weighing 149 pounds. He has therefore increased twenty pounds since his admission, and $3\frac{1}{2}$ pounds since injections were begun, during the continuance of which he lost very considerably. He is now at work in Bronxville, N. Y.

A. V., a nurse in the Montefiore Home, weighed, in summer of 1890, 138 pounds. She was constantly engaged in the wards, in which her mother was also a nurse. She began to loose flesh while at work ; cough

and expectoration were pronounced, and she had two slight hemorrhages.

Physical Examination revealed impaired resonance over left apex, jerky, exaggerated respiration, fine, moist and pleuritic râles. Bacilli abundant in the sputum. Weight 126 pounds on January 5, when she was subjected to tuberculin injections.

She received 21 injections, progressively increased. They were always followed by decided febrile reaction. The last injection of 45 milligrammes was administered on the 1st of April, and was followed by very slight reaction. During the entire treatment she had daily rain-baths.

April 10.—Cough, expectoration, night-sweats and physical signs have ceased; her weight increased to 132 pounds, and, no bacilli being found in the sputum, she was discharged at her own request as cured.

She is now working as a private nurse, feeling perfectly well.

In these cases the effect of the tuberculin was either deleterious or negative, while that of the rain butts was excellent.

The following case is cited to illustrate the tonic effect of hydrotherapy in a desperate and advanced case of phthisis:

B. S., aged 18, architect, admitted November 19, 1890. Mother died of chronic phthisis. Has been ill since he had an attack of pneumonia, two years ago, with night-sweats, troublesome cough and loss of flesh.

Physical Signs.—Tympanitic dullness over the upper third of left lung anteriorly, cracked-pot sound, cavernous râles, tubercular breathing, signs of catarrh in right apex. Complains of palpitation greatly.

Weight one hundred and fifteen pounds. Bacilli numerous.

Treatment.—Rain-baths, 70° to 65° , for 30 seconds. Cod-liver oil and creosote.

December 16.—Up to this time his weight had increased eight pounds, although the physical signs are the same as on admission. Temperature normal. He was now subjected to tuberculin treatment, under which he increased (as an exception to the rule), on April 10, to 138 pounds. Cough does not trouble him now, and he expectorates very little. A few bacilli at every examination. Physical signs not so pronounced. Râles few, and there is evidence of contraction of cavity. The palpitations, which troubled him greatly, have disappeared.

Dr. Hodenpyl's report of examination is interesting:

December 16.—One hundred tubercle bacilli to each cover-glass.

January 7.—One hundred tubercle bacilli to each cover-glass.

February 2.—Two bacilli to field.

16.—Five bacilli to field.

March 1.—Two bacilli to field.

May 7.—His weight is one hundred and thirty-nine pounds. He has been receiving rain-baths since the injections were stopped. He looks well, and may be

regarded as markedly improved. He was discharged on July 14, weighing 140 pounds, and *looking the picture of health*.

Bear with me while I cite a case from private practice, which illustrates the air and water treatment, which has given me such satisfactory results that I would commend it to your attention despite the fact that it involves much trouble and demands much judgment.

Mr. H. M., aged 28 years, whose brother died of phthisis, was sent to Minnesota seven years ago by Dr. A. L. Loomis, with the diagnosis of incipient phthisis. He settled in St. Paul, married, and his health improved, so that he regarded himself as cured. Last Winter, his father, whose family I attend, begged me to subject him to the lymph treatment. He had been rapidly running down of late with cough, night-sweats and fever. As I had no lymph for private patients, I advised him to come to this city for observation and possible hospital treatment. He arrived January 9, 1891. Without entering into his physical signs, suffice it to say that there was infiltration in right apex as far as the second rib. The general signs indicated a more advanced lesion. His temperature ranged from 101 to 104; his cough was incessant, accompanied by uniformly blood-stained expectoration, containing bacilli abundantly; his appetite was entirely gone, sleep unsatisfactory, and accompanied by exhausting sweats. Altogether he presented a picture of rapidly advancing process, although there was no evidence of breaking up.

The weather was extremely severe, snow being frequent. Being exhausted from the journey, he was allowed to rest a few days. The principle of the pure air treatment was adopted in the following simple fashion. During the night the windows of the parlor floor were allowed to remain partly open. An hour before entering the room the windows in the parlor were closed, and a fire was lighted in the stove (this disadvantageous mode of heating was insurmountable). The patient was now brought down, placed upon a steamer-chair, wrapped in furs from head to foot, the face alone being left exposed. All the windows, except one in his immediate vicinity, were opened. He remained in this position from one to four hours, daily increasing the time. The windows were closed at 12, when he was taken to his bedroom, which had been in the meantime thoroughly aired and warmed just before his return. He now received the treatment which will be presently referred to, after which he had luncheon and was again placed in his steamer-chair on the parlor floor. The bedroom windows, having a Southern exposure, were again left open until he returned. When he was snugly in his bed one window was left open from the top over night.

The remainder of the treatment consisted in meeting the second indication above referred to, viz., an effort to endow the system with power to resist the inroads of the disease. The chief element in this treatment is hydrotherapy, as above stated. He was gradually educated to bear water treatment during

the first five days. He then received the dripping sheet at 70° , with affusions at 65° ; reducing both two degrees every third day until the former was 64° and the latter 58° . He had abundance of milk, which he formerly loathed; and as his appetite improved, eggs, strong farinaceous broths and mushes. On March 14 he had so far improved that he had registered a normal temperature for two weeks, even in the evening; he was entirely free from cough and expectoration, except early in the morning; there were no night-sweats, he slept soundly. The physical signs had improved, so that it required a very careful auscultation to discover them. Bacilli continued to appear but in diminished numbers. He had attained his normal weight, gaining twelve pounds in flesh. I did not resist the importunities of the patient to allow him to return to St. Paul, inasmuch as he insisted that he was now in far better condition (feeling quite well) than he was when Dr. Loomis sent him there seven years ago.

The second chapter in this case is equally interesting and relevant to my subject. A few days after his return home he rode in an open cable car in inclement weather, contracting a cold which brought him to bed. Imperfect water treatment which he obtained at home probably contributed to this issue. Reports reached me that he was desperately ill, his physicians declaring it useless to treat him any longer. Felling that hydrotherapy had rescued him from desperate straits before, he determined to make the journey to New York. He arrived the latter part of

April in a most forlorn condition. Examination revealed a catarrhal pneumonia, involving the entire lower half of the left lung, with evidences of softening anteriorly just under the nipple. His temperature ranged from 102° to 105° , he had night-sweats, severe cough and expectoration, no appetite. Nevertheless I subjected him to the same course as in the first instance, without any result however. Wet packs, too, failed to reduce his fever. He now entered the Montefiore Home for the purpose of more systematic treatment. Here the rain-baths always reduced his temperature; otherwise he did not improve. He then was treated at home by my private nurse, but steadily failed. As a last resort, regarding the treatment at home as imperfect in some way, I had him brought to Long Branch, in order to have him under my personal supervision. The night-sweats were now so exhausting that I gave him atropine without effect. He was again subjected here to a systematic water and air treatment. He was ordered to lie in a hammock under the trees all day; he had wet packs and the dripping-sheet under my personal direction. Improvement was marked, showing itself first in a normal morning temperature, and better appetite. In three weeks he was so much better that he committed the imprudence of walking a mile to the Iron Pier to receive his wife. This act came near being fatal to him. The local process was again lighted up. He was put to bed, linen compresses wrung out of water at 65° , and later out of 50° , were wrapped around his chest and covered by a flannel bandage, renewed

every hour, renewal being preceded by an ablution of the chest with water at 70°. He had a general ablution morning and evening. Under this treatment of absolute rest, and without any medicine except a creosote mixture he again improved, with the exception of a brief relapse caused by another imprudence. When he left Long Branch in September his appetite and general symptoms were greatly improved; there had been no sweats in four weeks, no fever in two weeks; he had gained flesh, coughed very little; there were evidences that the cavity was contracting. He was sent to D. V. Ruck's Sanitarium in Asheville, N. C., in good condition.

This case is given somewhat at length because it illustrates the necessity for rest and care as well as the method and value of the air and water treatment in mild and desperate cases.

CHRONIC GOUT AND RHEUMATISM.

Chronic gout is a diathetic disease in which there is misdirected tissue change. This essay being chiefly clinical, it is not my province to enter into a description of the opinions held regarding the nature of gout. Fortunately, most observers are agreed upon the essential point that gout is practically a uric acid diathesis, or rather a disease in which there is a disturbed relation of the processes resulting in uric acid formation in the body. Whether there be decreased formation or elimination due, as Cullen claimed, to vicious nervous influences, or as

Todd and the older writers, and more recently Chareot held, to disturbance of the digestive organs, especially the liver, or to interruption of the urea Excretions as Garrod insists, the undisputed fact is that an accumulation and retention of uric acid, resulting from insufficient elimination, occurs in the juices. Cantani has probably given us the most judicious therapeutic indication. He holds that the excess of uric acid in the blood (actual urate of soda) does not signify the *materia peccans* which irritates the gouty joint; it does not furnish the cause of the local manifestation and basis of the local deposits; but, on the contrary, the uric acid dyscrasia of the gouty is really the consequence of a disturbance of tissue metamorphosis in the affected parts, especially in the joints. In this change of the innermost function of the histological elements of the tissue (perhaps in certain ones as in the joints, etc.), in this alteration of the chemical consumption activity, and not even in its anomalous products or in the presence of uric acid, instead of urea, nor in the deposits of urate of soda; does Cantani find the real nature of the gouty diathesis. He regards it as an anomaly of the constitution of the individual, a disease of tissue change. Consequently, gout may be termed the result of a partial retardation of the latter with a stasis of the metamorphosis and oxidation of nitrogeous substances in the grade of uric acid. The apparent contradiction existing between the theories of the most able exponents of gout, may fortunately be readily reconciled therapeutically.

With regard to *Rheumatism* we have a similar difference of opinion. The retention of lactic acid is according to Senator and other judicious observers, the essential element of this disease. The great tendency of muscles and joints to diseases due to cold is well known. Says he: (Diseases of the Apparatus of Locomotion, Ziemmsen's Handbook XIII.). "In both there are active processes of tissue change, especially are lactic acid and phosphate of potash formed in the muscles. These are not normally eliminated when the skin is suddenly cooled; hence they accumulate. This is proved by the occurrence of rheumatism in diabetic patients, reported by Foster and Kuelz, as having been treated by prolonged use of lactic acid." Here, too, we have a perverted nutritive process, whose products are turned into faulty channels. For therapeutic discussion therefore, we may combine these maladies; though they differ essentially in many respects both as to their etiology and nature.

We have in both diseases the manifestation of a vicious mode of life or of exposure to other deleterious influences, combined nor ot with inherited tendencies; which but too often play an important role in etiology. We must address our treatment in both to improving the digestion and assimilation of food, increasing elimination of effete products, and, by supporting the strength, enhance the patient's powers of resistance. The utter futility of medicinal treatment for these purposes is evidenced by the multiplicity of

remedies which have accumulated in our books upon the subject.

To accomplish any valuable result in such a malady, to rearrange as it were the entire nutritive system, to divert it from its vicious tendencies, to remove products of retrograde tissue metamorphosis and to prevent their reproduction, experience has shown may best be done by physiological agencies, as diet, exercise and certain hydiatic measures.

It is my custom to give these patients a diet containing the smallest possible quantity of nitrogenous material. Red meats are forbidden; also the white of eggs, fermented liquors—indeed all foods or drinks which tend to increase the production of urea and uric acid. So long as the best clinicians are unable to agree upon the true pathology of these diseases, and the best diet for them, a nutritious, medium diet, like the above, has seemed to me to be the most valuable.

As Semmola has shown, there is no method of treatment which has given such remarkable result in these disturbances of tissue change as judicious diet, and exercise, combined with hydrotherapy. Massage in the more painful stages, passive exercise in the sub-acute conditions are indicated. Most observers are agreed upon this point. When the muscles are placed into action, the lymph and blood-vessels are compelled to do their work, absorption takes place, and the general activity of the system, thus evolved, must aid materially in the removal of fluid deposits. The judicious prescription and equally judicious observance thereof, of gentle muscular exercise, form an important

element in the treatment of gout and rheumatism. It must be avoided so long as redness and local swelling are combined with pain.

A powerful auxiliary to judicious diet and exercise may be found in the application of certain hydriatic procedures. It will be found useful to distinguish in this connection between the several types of gout and rheumatism which come under observation.

1st. The anæmic type, rendered so by long continuance of the disease and subsequent abstention of exercise, by loss of sleep, etc.

2d. The plethoric form, usually, though not altogether, found among the better situated gouty.

3rd. The intermediate form between these.

In the first type, a tonic procedure being indicated, we have in gentle and judicious application of cold water our most valuable remedies. The skin should be educated as was described in the treatment of phthisis, first by the dry pack and subsequent cold ablutions, then by the dripping sheet, and rain-bath.

In the third (intermediate) type the same course may be pursued. In these cases we have in the wet pack (i. e., patients are wrapped in sheets wrung out of cold water and covered with blankets like a mummy, to be followed in an hour by the half bath at 70 to 65°), a valuable means not only of promoting tissue change, but of removing debility, improving the appetite and building up the nerve tone.

The second type (the plethoric), in which there is so much stiffness in joints and muscles without general failure of health, is more difficult to manage. The

resolvent method is the most useful. In these cases I have found the hot air bath, followed by the douche, most applicable. And here let me say a word of warning against the indiscriminate use of the Turkish bath. Being applied by ignorant attendants, the patient is subjected to treatment which may do him much damage. What is a luxury and comfort for the healthy is certainly not always best for the sick. The heating of the body in dry blankets for several hours, while the patient is made to partake freely of cold water (preferably alkaline) is a method by which Priessnitz has obtained remarkable (almost marvellous) results, as we are informed by reliable observers living to-day (for instance, Prof. Semmola of Naples.) The box hot air baths, followed by the cold douche, is, after educating the patient's skin, a most valuable measure. It has been demonstrated by Frey and Heiligenthal that it increases tissue metamorphosis; and that there is consequently an increased elimination of urea and uric acid. The theoretical considerations involved cannot be discussed here. Suffice it to state that they produce a diminution of the quantity of urine, increase its concentration, as evidenced by greater specific gravity; retention of uric acid at first, but *a three-fold increase of elimination later*), which, as well as the urea, continue to be eliminated more freely for several days.

These authors justly claim that, "aside from the beneficent effect upon tissue metamorphosis in the gouty and rheumatic, the increased energy and power of resistance of the cutaneous nerves against atmos-

pheric influences, is not to be underestimated." Colds must become more rare, and these are not only often the chief causative factor, but especially in rheumatism they form by their frequent repetition, the basis of the entire disadvantageous tissue change. Much benefit is claimed to be derived by hot sulphur and other mineral springs. It has been proved by Leichbenstern and others that the sulphur (or other mineral ingredients, in these baths contributes absolutely nothing to the cure. Nothing is absorbed through the epidermis, unless it be in a volatile form. The sooner this fallacy is removed from the professional mind the better. The psychological effect of the idea may be allowed to do its good work in the lay mind, but the physician should know exactly where he stands. Benefit is due to the long maceration in these hot baths. The excellent regime to which the patients are subjected in the better class of resorts, the influence of tales of cures which among a large number of frequenters must occur occasionally, and which seem marvellous when exaggerated by the interested proprietors and their agents, the removal from vicious home surroundings—above all these that which I chiefly desire to emphasize in this paper as the most important element in the management of all chronic diseases—the systematic observation and treatment, obtainable from skilled experts, the same as we give patients in acute diseases, accomplishes results which must surprise those who treat cases at home in a necessarily slipshod and perfunctory manner. Institutional treatment will show in all chronic diseases, what has been

proved in that most intractable of all—*phthisis*. The following clinical history from Duval (p. 553), illustrates the value of methodical treatment, even in desperate cases. It is of the third type mentioned above:

Z., a Pole, 65 years aet., well developed, of bilio-sanguine temperament, high color, was sent to me by my friend, Dr. Raciborski. Patient had suffered greatly from the political misfortunes of his country, cumbered with loss of his fortunes, which had completely changed his mode of life, so that he was compelled to work as an engineer. He was subject to frequent attacks of gout, for which he had had all kinds of treatment. When, on the 12th December, he applied to me, he presented nodosities on most of his fingers and metatarso-phalangeal articulation. Every week he had grievous attacks, lasting two to four days. No heart trouble, and no loss of sleep or appetite.

Morning and evening he had a rain-bath of five seconds followed by a jet douche of a minute, played all over the affected articulation. On the 16th he had a severe attack; he was placed in the hot air box, with wet compresses on head and feet; and when the skin became warm he received several drinks of cold water every five to ten minutes. He perspired freely in 25 minutes and was now placed into a rain-douche for fifteen seconds, followed by a jet douche as above. He was well rubbed with warm, dry cloths, and was now able to walk, which he had not been able to do in two years so soon after an attack. The douches were renewed every day, the hot air baths every two

days ; the paroxysms returned, but with less severity. On the 24th one commenced, which was completely aborted. Treatment was continued, but he had three more approaches to attacks in ten days.

From the 15th January he had the hot air bath every day. He left on the 12th February, after having been entirely well for over a month. We have seen him time and again since, but he has remained well.

The following case illustrates the successful treatment of chronic rheumatism, which was regarded as so incurable as to pass examination for admission to the Montefiore Home. I am indebted to the Senior Resident, Dr. Max Rosenthal, for this valuable history :

CHRONIC RHEUMATISM.

S. Z., 26 years. Single. Austria. Waiter. 248 E. Second Street. Admitted November 14, 1889.

Family history : Father died at 45, twenty-one years ago, of phthisis ; mother is alive and well. Five brothers and two sisters, all alive and well.

Personal history : Sick six months ; had measles and scarlatina as child ; at 6 both legs run over ; had typhoid about the same time ; was a weakly, delicate child ; at 14 had rheumatism with severe pains in the muscles, which were painful on movement ; no fever ; lasted about seven months. Cured by baths. Went to work in a hardware store at 17. Was ever since disturbed by headache, dyspepsia ; occasional winter cough with expectoration. Last absent for two years. Last July attacked by gonorr-

hea. Discharge slight. Treated by copaiba and injections. Two weeks after commencement of urethral trouble noticed swelling at the root of toes of right foot and painful right knee. Employed the Russian bath as a curative measure. A week later right ankle became painful and slightly swollen on its inner aspect. Directly after attacked by a severe pain in the small of the back, with stiffness. Two weeks later left elbow became quite painful, especially on pressure. Would leave one foot and go to the other. Spent three days in August in the German Hospital. Went two weeks later to Mt Sinai for twenty-four hours. Treated outside by some medicine which induced profuse sweating. At time of admission presented swelling of right ankle, especially marked upon its inner aspect. Also swelling of the eminences of the big and little toes; the latter very painful on pressure. The other foot was about the same, but less marked. Knees very painful, especially on extension. Standing was more painful than walking. Gait was stiff and much impaired. Appetite was poor. Bowels rather constipated; urine was high-colored. Gonorrhœa had stopped four months before admission. Sleep was poor; was very anæmic, and badly nourished. Urine 1.022.

Treatment.—Anti-rheumatic diet. Ferr. oxid. sacch. ̄ t. i. d. Hot fomentations and pack and half-bath on alternate days. Cold compress to feet, daily; changed six-hourly.

After admission appetite improved materially; sleep poor; constipation continued. Rochelle salts oz i. in hot water at 6.15 a. m., daily.

January 2, 1890.—Patient is entirely cured of his rheumatism. Feels in excellent health; constipation relieved; sleep still imperfect. Advised to stay a little longer to assure permanence in the obtained result.

Discharged cured.

A few cases of chronic rheumatism from Duval's work may be cited with advantage (p. 693). On the 19th April, 1875, Dr. D. Dubois (of Litte) brought me Monsieur X., who had been suffering for ten years from a most grave and rebellious rheumatic affection, which had received all kinds of medication. All the large and small articulations were tumified, his complexion was bilious, eyes glassy; he looked cachectic; he had a little fever, and suffered from complete insomnia.

The treatment was preluded by a general ablution with water at 24° (82° F.), repeated in the afternoon with water at 16° (61° F.), followed by a rain douche of five seconds. After each operation he received half a glass of cold water. Every day afterwards he was placed in the hot-air box (*étuve sèche*); during which he received large quantities of cold water and had his head moistened. This was followed by a rain douche over the entire body and an energetic jet douche on the joints.

On the 10th May, Mr. X. left, entirely cured, and rejoiced at his unhoped-for transformation. (For further details see *La Med. Contemp.*, April, 1876.)

Additional histories would fatigue by their sameness. These cases are very much alike. There is a

history of long suffering, stiffness and impeded locomotion, and general hopelessness due to the failure of a multiplicity of remedies and doctors of high and low degree. They have rarely had systematic, prolonged treatment of any kind. None of these cases should be regarded as hopeless until such treatment, including hydrotherapy and its auxiliaries, have been fairly tried. My personal experience and observation justifies this positive assertion. I have here, as in other diseases, intentionally omitted the recital of cases from my private practice; preferring to illustrate by cases recorded in hospitals and institutions, because one is more or less liable to be biased in the reporting of his own successful cases.

Another disease illustrating the value of systematic treatment is

DIABETES.

Diabetes is a malady that has probably received more so-called systematic management than any other. It has been recognized that by the diminution or entire removal of starchy and saccharine food, the quantity of sugar appearing in the urine may be limited that the patient's health is improved by the diminution of the exhaustion incident to the perverted functions, which robs him of his storehouse of force—*Glycogen*. This was indeed a great step in advance; but it is, as was well said by Dr. Draper in a discussion of the subject in the New York Academy of Medicine (*Medical Record*, May 8th, 1886) an entirely empirical treatment. Put less sugar in and you

have less to dispose of is a simple English dictum. I desire here to reiterate my remarks on that occasion, because I regard it as of paramount importance to impress upon the patient the need, not only of systematic diet, but of systematic exercise. Unless the physician be convinced of this, he will permit the disinclination of all diabetics to exercise to overcome his injunction. The latter cannot be made too strong. *A certain definite amount of exercise must be prescribed and taken.* I advise the use of the pedometer for the purpose of *measuring and recording the amount of walking exercise* : which is by far the best taken by the patient. Why should we not have an exact estimate of so important an item of treatment ? The patient's statement may be a fair guide in some cases, but his physical condition renders him a prejudiced witness, be he ever so honest in his intentions. Whenever we shall dose our exercise as we do our medicines, and see to it that our prescriptions are followed as punctiliously as we are wont to do in medicine, we shall achieve greater precision in our results. In the discussion of the treatment of diabetes in the New York Academy of Medicine, on March 18th, 1888, I endeavored to emphasize the importance of active and passive exercise adapted to the requirements of each case. So convinced was I of the value of this therapeutical measure, that I had adopted the method of compensating my diabetic patients for taking the prescribed exercise by a definite allowance of white bread (for which they all crave), graded according to the amount of exercise taken.

This treatment, based upon the well-known recommendation (empirical at that time) of Bouchardat, has suffered unmerited neglect, if we are to judge from the absence of any allusion to it in the discussion referred. Indeed one of the speakers, whose clinical experience is large, and whose opinions are justly esteemed expressed the regret that, aside from the dietetic treatment, there is nothing but empiricism in the therapeutics of diabetes. In reply to this asseveration, I felt called upon to say that the recognition of muscular exercise as an important element in the treatment of this malady is the logical outcome of well established physiological facts, and therefore its application is strictly scientific. Physiology teaches that the liver and muscles are the most active agents in absorbing sugar from the blood and converting it into glycogen, which in its turn is utilized for the maintenance of the body.

In diabetes, the glycogenic function of the liver is either in abeyance or greatly impaired, while the muscles also fail in a great measure to perform their function of disposing of sugar. We resort to the restriction of sugar supply by diminishing or withdrawing those articles of diet which physiology has taught are sugar producing. We possess no remedy which stimulates the glycogenic function of the liver, but we are in a more favorable position regarding the muscles. By increasing their functional activity we can stimulate the sugar-converting function of the inner fibrillar substance of the muscles, and thus we may dispose of a large portion of the excess of sugar circulat-

ing in the blood. Clinical experience is fortunately entirely in accord with this deduction from the teachings of physiology. This fact has again and again been exemplified. It is nothing new ; but its true import is unfortunately but too often lost sight of in the eager search for anti-diabetic, diabetic, or medicinal specifics. The subject of exercise is often dismissed by directing the patient to exercise in the open air without fatiguing himself. The insufficiency of this injunction is within the experience of every practical physician. It is a well known fact that diabetics are, as a rule, loath to muscular exertion ; lassitude is a common symptom, and something more than the mere suggestion is required to enforce the necessity of exercise upon these patients. Being based upon strictly scientific data, the prescription of exercise should be as precise and exacting as that of the diet, if we would obtain the legitimate advantages. And it will tax the skill and ingenuity of the attendant to the utmost to obtain the desired result. Dr. William Richardson, in his book on diabetes, furnishes us with a personal experience which all practical physicians will at once appreciate. He describes graphically how he was himself overcome by weakness and indisposition to exertion when suffering from diabetes. "He could not walk a hundred yards without great fatigue ; he frequently fell." "I began to take exercise regularly two or three times a day ; wet or fine, I took it." "Gradually I gained strength, so as to be able to walk five or six miles a day without fatigue." "The exercise should be regularly sus-

tained day by day ; even in wet weather it should not be intermitted ; of course great care should be taken against wet feet ; it should never be carried to real fatigue ; a feeling that exercise has been taken is the most that should be felt. To carry into effect regular and sustained muscular exercise requires great moral courage and energy, the languor and feeling of weakness are so great ; but if the exercise be carried out only patiently and perseveringly the task will become not only more and more easy—will soon no longer be a task, but positively a pleasure.

We have ample testimony on the value of exercise in the discussion of diabetes in the fifth German Congress for internal medicine. Prof. Stokvis of Amsterdam, said : “He insists on muscular exercise, by which alone the percentage of sugar can be greatly diminished.”

Prof. Hartman said : “Alkaline remedies, the opiates, active muscular exercise, or muscular massage where the patient is not able to take active exercise, and observance of a good hygienic regime in general are the means he relies upon.”

Professor von Mehring “had invariably noticed considerable decrease, and even disappearance of sugar from the urine after prolonged, active and passive exercise.”

Professor Finkler “has the records of thirteen cases of diabetes, in which he succeeded in reducing the sugar in the urine from four hundred grains to one hundred and fifty grains and less per day by

active and passive exercise, allowing small quantities of hydrocarbons. In some cases the sugar disappeared entirely."

In the discussion of the subject in the New York Academy of Medicine, referred to above, the writer's earnest advocacy of muscular exercise in diabetes was met by the argument from the principal speaker, that it is very dangerous to make those suffering from the severe forms of diabetes take much exercise, although in ordinary cases exercise in the open air within the limit of fatigue is important and necessary; and another gentleman expressed himself wholly in accord with this view, as he had seen coma in children develop shortly after admission to the hospital, due to the fatigue and excitement. In London it had been observed after long railway journeys.

Fearing lest these opinions may deter many from resorting to a measure which is so full of promise to the diabetic, I desire to reiterate what I said on that occasion, viz., that all valuable therapeutic measures are potent for evil as well as for good, and that a judicious selection of cases will eliminate possible dangers. That the latter have been exaggerated would appear from Prof. Stokvis' essay, who says that diabetic coma might result from sudden and abundant production of acetone, etc., coming on after *unusual* exertion—the fatigue of a long journey. The *Medical Record*, of May 15, 1886, p. 549, has an able article by Dr. Devlin reviewing the histories of many cases of diabetic coma, among the important lessons drawn

from which the most obvious is that in them the *history of previous fatigue or over-exertion rarely appears.*

If time permitted I might cite a goodly number of cases from my private practice in which a combination of systematic exercise, bathing and diet has caused complete disappearance of sugar from the urine, and restoration of strength. Two of the most recent cases occurred last year. Two ladies desired prescriptions for pruritus vaginæ of obstinate type. Examination of the urine revealed 4 per cent. sugar in one and 3 per cent. in the other. They were both subjected to the above indicated treatment, with a mild domestic hydrotherapy, which they carried out faithfully with the result of being rapidly restored. Recent examination demonstrate that they continue *free from sugar*, although 18 months have elapsed, and one of them has eaten wheat bread, occasionally, and fruits, daily, of late. I have not had an opportunity of adding methodical hydrotherapy to the treatment because I have usually succeeded without it, and the trouble and loss of time involved disincline most patients to adopt it.

In this connection it may be of great value to refer to the Von Duehring treatment of diabetes. This physician formerly practiced in Hamburg, where he obtained great repute for his cures of diabetes. He claimed that some failure in the digestive powers was at the bottom of most cases of diabetes, that urine sugar was produced not from what the patient eats, but from what he does not digest, and this was

enhanced by defective respiration and skin action. His procedure was as follows: The patient received early in the morning a wet pack of an hour with open windows, followed by a cold ablution. He now got milk and lime-water with bread, or a soup made of rice, hominy or barley without butter, but with a little salt. Now followed a walk of one or two hours. At 11 to 12 A. M., half glass diluted rice or flour soup with or without milk. This was followed by a walk of one-half to one hour; now an hour's sleep or rest.

Dinner at 2 or 3 P. M., consisted of rice, 250 grammes roast or boiled meat, dried fruits and beans. From the fruit the skin was removed. Fats and sauces were forbidden. Green vegetables, even carrots were permitted, but they were cooked in salt and water only. Raw apples and cherries allowed, also a small glass of red wine, and water occasionally.

This was followed by a walk of one to three hours in the evening, then rice grits or barley, water soup with salt and without butter, or milk and lime-water.

Another walk of at least half an hour. At 9 or 10 patient was put to bed with open windows.

All the cereals and fruits were soaked in water over night, after being well washed. They were boiled in the same water, four hours for rice and flour, eight hours for barley, one and a half hours for baked fruits. Salt only was used for the cereals, bicarb-soda instead of sugar for the fruit.

In the light of my personal experience this treatment would be more useful than appears to be to our

preconceived ideas. The experience of Finkler, quoted above, coincides with my own, in that patients may be allowed a moderate quantity of starchy food, provided they dispose of the sugar formed by muscular exercise. I have found it advantageous to compensate my diabetics for a certain amount of exercise by an allowance of small quantities of hitherto forbidden food.

Such systematic attention to the needs and capabilities of the patient's system must inure to the patient's benefit, and enable us to attain more cures than is possible under the present purely dietetic management.

I would gladly enter into the discussion of other diseases, usually regarded as incurable or very difficult to cure. But I will content myself with simply referring to one which has long resisted varied medication and diet, with only occasional recovery, but which has yielded beautiful therapeutic results since a simple but systematic method of management has been devised. I refer to

GASTRIC ULCER,

that most painful of all gastric troubles, which had defied the best directed efforts for a long time.

Since Kussmaul and Lenbe have pointed out the true nature of *ulcus ventriculi*, and have devised the systematic rest and feeding treatment which is now so generally adopted in place of the former nitrate of silver and haphazard dietetic treatment, these cases afford the physicians great satisfaction.

Three cases which were under my treatment recently, recall this subject vividly to my mind.

In all the cases the pain was distressing; it was supposed to be due to nervous dyspepsia in one, gastric catarrh in the others, as there was no vomiting. The usual remedies had been applied without effect. Hot water and beef pulp, kumiss and other dietary preparations, aided by pepsin, bismuth, and hydrochloric acid had been diligently used. In all the cases the pain ceased immediately upon the recognition of its etiology, in the existence of a gastric ulcer and its correct systematic treatment by absolute rest and the exclusive use of milk with 50 per cent. lime water. That pain which had resisted all the usual remedies, including in one case large hypodermics of morphia, should yield at once to this regimen, is the most conclusive evidence of the rationale of this simplified therapeutics. The irritating effect of the gastric juice upon the abraded surface is neutralized by the bland food; the gastric secretion is diminished by it. Rest to the stomach is secured as far as possible, and thus the rational treatment, beautiful in its simplicity, triumphs over blind medication. Whoever has observed the complete change from excruciating pain to calm comfort, which this simple measure has so often wrought in these cases, must commend the effort to imitate and emulate such simplicity in other maladies.

These illustrations may serve to demonstrate what systematic management may accomplish in chronic diseases, and to designate as succinctly as may be done

in the time at our disposal the lines upon which it may be executed.

My own clinical observation is confirmed by that of eminent teachers in Europe, who have striven to impress upon the profession the great value of the natural methods of treatment, aided by judicious medication. Permit me to offer one quotation.

Prof. Semmola of the Naples University, in his recent work (1890) on "Clinical Therapeutics," whose value is attested by a German translation and by a highly commendatory preface by Prof. Nothnagel of Vienna, says (p. 230) : "In visceral troubles, which defy all treatment because they are favored by special alterations in the tissue changes, the physician may accomplish in many cases a true and real cure by endowing all the functions of the organism with the highest activity without the aid of medicinal agents, *i. e.*, solely and purely by the application of ordinary physiological agents, and, above all, of hydropathy.

"The methodical, internal and external, use of water, together with climate, exercise, etc., are the means by which hydropathy stimulates cutaneous activity, and, with it all, functions of tissue change and organic purification, so that often *real marvels of recovery are obtained in serious and desperate forms of disease*. Unfortunately these wonderful effects are more rare to-day than they were in the time of Priessnitz, and of which I was a personal witness. It is to be regretted that physicians in general do not give to hydratic treatment that attention which its great value

deserves, for with the exception of the cold-water treatment of nervous diseases, which is often used in the most irrational manner, very little and very bad use is made of it in diathetic diseases. Those who were in a position to follow the cures of Priessnitz will readily remember what wonderful and unhopedor recoveries were obtained in Graefenberg by the water treatment. Let me impress deeply upon you this classical method of evoking and furthering a natural therapy which powerfully contributes to rejuvenate the organism and best secures therapeutic success. In all those cases which are united under the common term of retardation of tissue-change activity, hydropathy forms a truly rational etiological treatment, and it is therefore of certain and unfailing effect unless the local processes have advanced to atheroma, visceral arterio-sclerosis, etc."

II. FUNCTIONAL DISEASES

These offer a wide scope for the inculcation of the principles which this essay aims to advocate.

Rarely do we have an opportunity to treat such maladies methodically, for even where they are far advanced the patient is often allowed to pursue his avocations or pleasures. Under the erroneous idea that diversion of the mind is an important factor in the management of these cases, they are permitted to escape the discipline which is the only true means of proper treatment. In recent years a flagrant illustration of the value of systematic treatment of some cases of functional nervous trouble, hitherto

regarded as the opprobria of medicine, has been observed in the rest cure introduced by Dr. Weir Mitchell. Volumes have been written upon this ingeniously constructed method of our talented countryman, who has thus immortalized himself by simply applying the *principles I would now urge upon your adoption* in other diseases—viz., a more *methodical application of our remedial measures* chiefly dietetic, hygienic and psychical.

ANÆMIA.

A faulty hæmatisis is frequently of functional origin. When it is a manifestation of organic disease, the latter must receive the chief attention.

Observation has taught me that these cases are rarely subjected to any but desultory treatment.

Exercise in the open air, change of scene, a nutritious diet and iron in some form are the main elements of treatment. The patient is allowed to drift along as best he may. Fortunately, many recover under this treatment.

That our average results would be more favorable under a carefully planned and punctiliously executed management, every physician of experience will readily grant. Weir Mitchell has given us some beautiful illustrations upon this subject. Dr. Laache, of Christiana, has also recently demonstrated that absolute rest in bed is in many cases essential. Dr. Scholz of Bremen, treats obstinate cases successfully in his institution. He has found small venesections of great value, together with hot air baths. This

treatment has a rational basis, it having been demonstrated by Dogiel's experiments on dogs that bleeding with ten to fifteen leeches does not alter the tension unless it raises it slightly. If the bleedings are repeated every three or four weeks, the dog gains weight, sometimes considerably, and the number of red corpuscles increases, unless the bleeding is carried to excess or repeated too many times. Vogt also confirmed these experiments and states that the hamaglobin is positively increased by small bleedings. This depletion, accompanied by proper diet, etc., probably induces increased tissue metamorphosis. I refer to these reliable clinical and physiological experiments for the purpose of calling attention to the fact that the usual slipshod iron treatment of anemia is by no means the ultimate resort of the physician, and that in desperate cases we have many other resources. But my chief object is to ask attention to the necessity of *promoting and encouraging tissue change* in all diseases, in which there is a faulty hematosiis. Here again I am able to furnish abundant testimony of the auxiliary value of hydrotherapy. Again and again have I observed cases of anemia and chlorosis which had defied prolonged iron treatment under my own care as well as under the advice of colleagues yield readily, when a suitable hydriatic method was added.

The most simple means for this purpose is the cold ablution taken every morning while still warm from bed, not with a wash-rag however, but by pouring water at 70° abundantly from a sponge or pitcher

upon successive parts of the patient, who stands in a tub of hot water to prevent chilling. Gradually we may advance to the dripping sheet and wet pack. Several years ago our talented colleague, Dr. Mary Putnam Jacobi, wrote an able essay on the wet pack and massage in anemia in which she furnished so exhaustive a description of the method and physiological action of the treatment that I refer you to the original for valuable data. Suffice it here to state that in no type of disease does this systematic treatment evince more brilliant effects, than in anemia and chlorosis.

FUNCTIONAL DISEASES OF THE STOMACH

are a fruitful field for methodical treatment. How rarely these are subjected to systematic discipline, we have abundant daily testimony. These maladies have become so common, that we rarely encounter a student or professional man or woman who has not at some time suffered from "dyspepsia."

In these affections I regard the application of cold water externally by various procedures and the lavage by warm water, as may be indicated in each case, as probably of greater therapeutic value than all other treatment combined. A single brief history may serve to illustrate the value of systematic treatment in which hydrotherapy and electricity played a prominent rôle.

Miss W., daughter of an Ohio physician, aged 23, was sent to me by Dr. Francke Bosworth, the well-known rhinologist, on May 15, 1889. Pale, emaciated,

despondent, the picture of woe and despair, she was brought into my office by her sister. She had been ill three years; suffering first from fainting fits at the menstrual period; afterward from violent pains in the right hand, traversing the body and concentrating in the epigastrium. For these her father and brother had been compelled to administer morphia for a month. Her stomach became irritable, and has continued so up to the present time; she vomited and spat up nearly all her food, mostly the solids. Sea-baths did not improve her. She studied hard and grew worse. In the Fall of 1888 she lived on milk and farinaceous mush, and her stomach was regularly irrigated, without improvement.

She grew worse, became emaciated; she took peptonized milk for a month, but vomited it; meat produced the same effect. Last Fall she lived on grapes, which agreed with her. Now she had tonics, pepsin, and all possible medication which her father and brother could muster, without avail. She was sent to Dr. Bosworth, who is a friend of her brother. After being in the city for three weeks without improvement, the doctor sent her to me. She now vomits every day; she traces her ailments to painting lessons, but I drew from her the history of a potent psychical factor as a cause of the sudden violent insanity of the favored nurse of her childhood. My diagnosis was nervous dyspepsia. The stomach was washed out twice a week to remove mucus and fermenting material. She had general faradization daily. Every morning she received the dripping-sheet at 60° F.,

while standing in warm water. Under this systematic management she improved slowly, vomiting ceased entirely; she went to the seaside improved in July. On her homeward journey she called to tell me that she had grown stout and felt perfectly well. Last year I received a letter from her informing me that despite family troubles, the death of her father, which necessitated her adopting teaching as a means of livelihood, her health had been perfect. "You would not know me," she wrote, "as the same girl you treated."

CONSTIPATION.

Constipation is one of those minor functional ailments which give us much trouble. After failure of medicinal agents I have obtained excellent results from systematic treatment. Witness the following obstinate case, for whose history I am indebted to Dr. Leo. Ettinger, formerly resident physician of the Montefiore Home: M. G., a painter, has a history of lead poisoning; complains of marked abdominal distension, undefinable pains; is sallow and anæmic, anorexia and severe constipation are the symptoms that drove him from work to seek a last refuge in this home for incurables. Being regarded as a hopeless invalid by all his previous attendants, he was admitted, leaving his family to spend his remaining days in the Home.

March 15, 1889, he weighed 139 pounds. He received a dry pack, followed by an ablution at 65° daily. On the 15th of March hot fomentations were applied to his abdomen, while he lay wrapped in the

blanket pack, until his entire body perspired freely. He now received a rapid but gradual ablution with water at 65°, was dried and rubbed. An enema of 5 ounces of water at 45° was administered before the pack and retained. This treatment was continued daily, the bowels being emptied daily by large, warm enemata. April 8.—Pil aloes and mastich before each meal without effect for three days, enemata being suspended.

April 10.—Abdominal swelling has disappeared ; under one pill of aloes and mastich at bedtime.

May 1.—He was discharged, cured, at his own request, weighing 149 pounds, a gain of ten pounds in six weeks.

He has remained well since that time.

FUNCTIONAL NERVOUS DISEASES.

This class of diseases is the plague of our lives, simply because the patient is rarely sufficiently ill to require constant attendance. I am satisfied that in all these cases we may imitate Weir Mitchell with advantage, without resorting to the extreme methods which he judiciously advises for some of them.

Methodical Management is the *sine qua non* of success. Constant observation is required ; punctilious reports and submission to dietetic, hygienic and medicinal directions alone will enable us to accomplish the best results. Without fatiguing you with histories, I insist that in cases of neurasthenia, hysteria, chorea and allied troubles, I have derived great advantage from the systematic and judicious application of medicinal and non-medicinal remedies,

especially from hydrotherapy. My essay having already exceeded the limits I had designed, I must be content with the following confirmation of my personal experience in these maladies from a source whose authority all will respect and honor.

In his able work in Ziemmesen's Cyclopaedia, Prof. Erb, of Heidelberg, says : "Cold and cool baths, in various forms, belong to the most important therapeutically active agents in the field. This method has, since it has been more carefully studied and more rationally pursued, made notable advances. *Its results in all possible forms of chronic nerve troubles are extraordinarily favorable. There are few remedies which have an equally powerful influence upon the nervous system.*"

This indorsement may be accepted as of far greater value than the clinical histories which I am able to furnish in large numbers.

In conclusion, I beg to emphasize the following points :

1. A systematic methodical management which includes all known therapeutic agencies accomplishes results in chronic diseases which must surprise those who treat these cases in the usual desultory manner.

2. It would inure to the interest of both patient and physician, if chronic diseases were treated with the same regard to detail and precision as acute diseases, and if the medical attendant would prefer to dismiss the case to permitting the patient to follow his inclinations and neglect the advice of his physicians.

3. Hydrotherapy is an important and much neglected auxiliary in the treatment of chronic diseases

"In many chronic diseases it has proved so successful, after failure of medicinal agents, that *no case should be yielded up as hopeless until hydrotherapy in some form has been tried*. My experience at the Montefiore Home, which receives only incurable cases, demonstrates this fact.

"Domestic treatment by the methods here indicated will suffice in most cases, but if these fail a methodical treatment under an expert hydrotherapist may be of advantage to the patient.

"The most important elements are the thorough mastering of the general principles of hydrotherapy, precision in their application and their perfect adaptation to the constitutional peculiarities of each case—*i. e.*, not treating disease but the patient.

"For this reason the best consultants in Germany, in Italy and France—men like Leyden, Charcot, Senator, Semmola, Ziemmessen, Northnagel, Binswanger and Erb, send their patients to hydrotherapeutic establishments, which are under the direction of educated physicians who have studied the subject, with their diagnosis and general suggestions, rather than with specific directions for the method to be employed. Finally, so much depends upon the reactive capacity of each patient that only systematic observations can determine the most useful hydropathic procedure in each case." (American System of Therapeutics, Edited by H. A. Hare, M.D., Vol. 4, p. 514).

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